

# Indiana Utility Regulatory Commission

*2018 DIMP*





No later than August 2, 2011 a *gas* distribution  
*operator* must develop and implement an  
integrity management program



# Knowledge 192.1007

- **Knowledge** - An *operator* must demonstrate an understanding of its *gas* distribution system developed from reasonably available information
- Identify the characteristics of the **pipeline's design and operations**
- Identify additional information needed and provide a plan for **gaining that information over time through normal activities** conducted on the pipeline (for example, design, construction, operations or maintenance activities).
- Develop and implement a process by which the IM program will be **reviewed periodically and refined** and improved as needed.
- Provide for the **capture and retention of data on any new pipeline installed**. The data must include, (*at a minimum*), the **location** where the new pipeline is installed and the **material** of which it is constructed.



# Knowledge 192.1007

## What are we finding?

- Not capturing information for **new installations**.
- PE installed? Manufacture, type, size, SDR, material specs, lot or production number, (date runs), MAOP, NOP, etc..
- Steel? Manufacture, coating type, mil thickness, wall thickness, seam type, grade, design, pressure test data, MAOP, NOP, etc..
- EFV's – Manufacture, size, capacity, lot numbers, data runs,  
*(Federal Register / Vol. 80, No. 98 / Thursday, May 21, 2015 / Proposed Rules)*



# Pipe Markings





# Pipe Specs



## Inkjet Printlines for Gas Distribution Products (Not Auto Coiled)

### Coils (Example Printline)

2" IPS DR11	Driscoplex®6500	Gas	PE2406/2708	CEE	ASTM D2513	WT07	K	NR	NSF®GAS U.P. Code	0502 Feet	01/06/15	13:30	Coil 0226	Made in the USA	PE3b9h09VB1123KU0	
Size & Dimensional Ratio	*Trademark & Product	Application	†Material Code	Temperature Code/ Generic Fusion	Product Standard	‡Plant & Extruder	Resin Code	No Rework	Third Party Certifications	Sequential Footage Marking	Manufacturing Date	Time Stamp	Coil Number	Country of Manufacture	16 Character Gas Distribution Component Tracking Identifier	1 D Bar Code
2" IPS DR11	Driscoplex®6500	Gas	PE2406/2708	CEE	ASTM D2513	PR014	K	NR	NSF®GAS U.P. Code		01/06/15	13:30		Made in the USA	PE3bu609VB114kZ0	

### Joints (Example Printline)

#### \*TRADEMARK & PRODUCT

Driscoplex® 6500 (MDPE)  
 Driscoplex® 8300 (HDPE)  
 Driscoplex® 8100 (MDPE)

#### †MATERIAL CODE

PE2406/2708 (MDPE)  
 PE3408/4710 (HDPE)

#### ‡PLANT CODES

WT = Williamstown, KY  
 KV = Knoxville TN  
 FF = Fairfield, IA  
 PR = Pryor, OK  
 RN = Reno, NV  
 HG = Hagerstown, MD

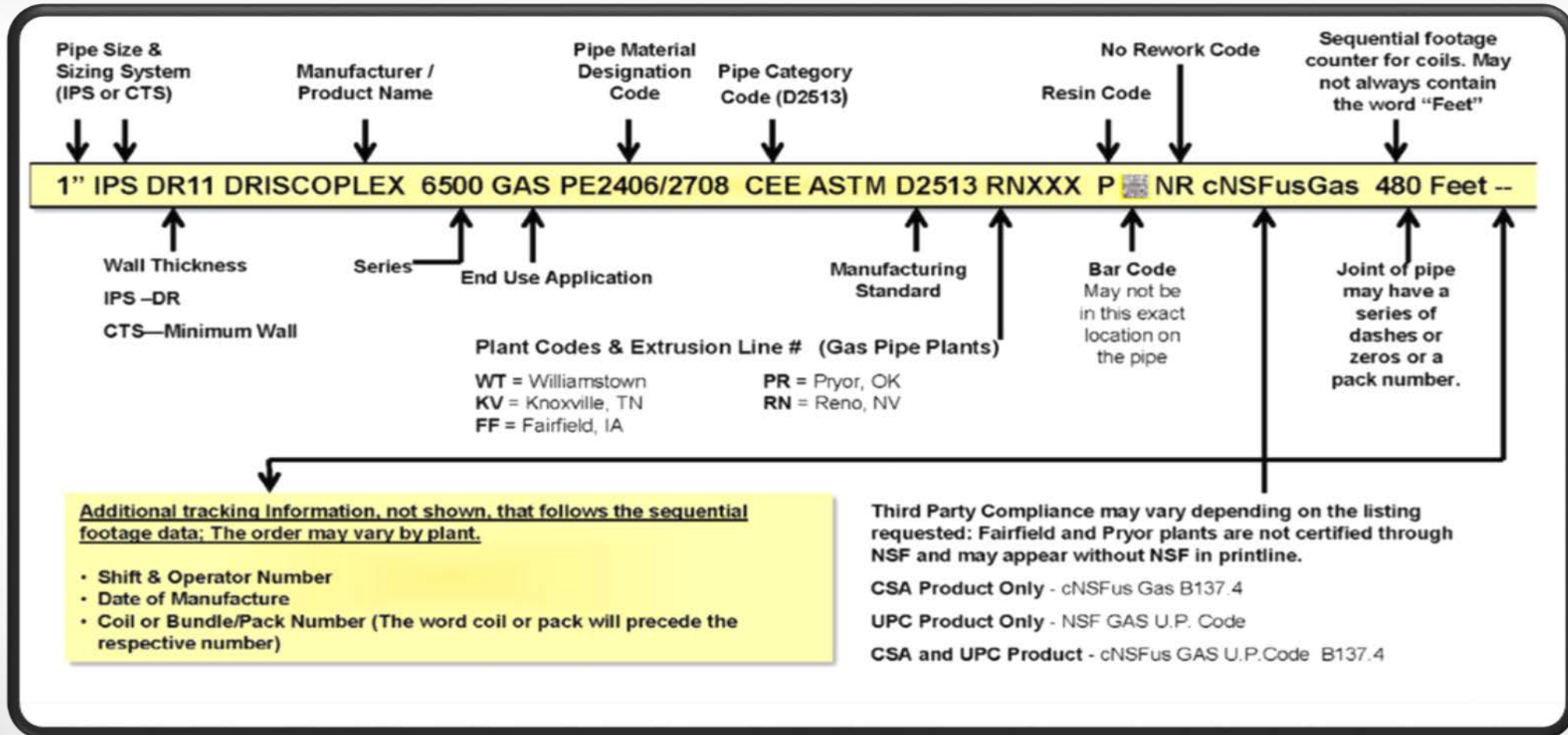
*The 16 Character Gas Distribution Component Tracking Identifier is proposed as a required identification method for DOT 49 CFR Part 192.*

*While it is preferred to have a complete printline for traceability, if the 16 Character Gas Distribution Component Tracking Identifier is not provided, Size, DR or wall thickness, Plant and Extruder and Date are necessary for Performance Pipe investigational purposes.*





# 1 Inch Driscoplex





# Knowledge 192.1007

## What are we finding?

- What are the operators doing with information captured on every exposed line (normal operations)
- Are gaps being filled by providing missing information since 2011 development
- Operators lack collecting missing or incomplete system information and data needed to fill gaps, thus are existing and potential threats being assessed properly
- Rule since 2011 – leniency in beginning of plan development





# Knowledge 192.1007

## What are we finding?

- What additional information about the system have you discovered since 2011
- Any closer to understanding the characteristics of the pipeline's design and operations. Coatings, wall thickness, pressure test data, CP history, condition, leaks, etc...
- Main/service/Pipe Exams/Visual inspection forms have incomplete data. Pipe is exposed. What information should I have gathered and missed the opportunity while the pipe is exposed? NOPV – Code states: *gaining that information over time through normal activities.*



# Identify threats 192.1007

- **Corrosion**
- **Natural forces**
- **Excavation damage**
- **Other outside force damage**
- **Material or welds**
- **Equipment failure**
- **Incorrect operations**
- **Other concerns that could threaten the integrity of its pipeline**



# Threats 192.1007

## What are we finding?

- Not all threats fully identified in operator's plan  
*Not as obvious but exist - Ex: Damage to pipeline facilities caused by flooding, Abnormal snow/ice buildup on systems, Mechanical couplings, Brittle cracking older PE, Girth weld quality issues, etc...*
- Identification of threats is key to Integrity Decisions, measures to implement to reduce risk
- Misidentifying threats. Is it equipment failure or incorrect operations...



# Gas Distribution Threat Categories from GPTC G-192-8

- **External Corrosion**
  - Bare Steel Pipe (CP or no CP)
  - Cast iron pipe (graphitization)
  - Coated and wrapped steel pipe (CP or no CP)
  - Other metallic materials
- **Internal Corrosion**
- **Natural Forces**
  - Outside force/weather: steel pipe
  - Outside force/weather: plastic pipe
  - Outside force/weather: cast iron pipe
- **Excavation Damage**
  - Operator (or its contractor)
  - Third-party
- **Other Outside Force Damage**
  - Vehicular
  - Vandalism
  - Fire/Explosion (primary)
  - Leakage (previous damage)
  - Blasting
  - Mechanical damage: Steel pipe, Plastic pipe, Pipe components



# Gas Distribution Threat Categories from GPTC G-192-8 (continued)

- **Material or Weld**
  - Manufacturing defects
  - Materials/Plastic
  - Weld/Joint
- **Equipment Failure**
  - System Equipment
- **Incorrect operation**
  - Inadequate procedures
  - Inadequate safety practices
  - Failure to follow procedures
  - Construction/Workmanship defects
- **Other Failure Causes that the Operator has experienced.**



# Evaluate and rank risk 192.1007

## What are we finding?

- Most operators using SHRIMP re-rank based upon system knowledge. Are these accurate and do they change with revisions to the plan?
- Evaluation must consider *Likelihood* of failure, and potential *Consequence* of such failure



# Identify and implement measures to address risks 192.1007

## What are we finding?

- All risks not being identified, and the ones that are, measures to address risks are sketchy. Not always clear what an operator is doing to implement measures
- Are measures working



# Measure performance, monitor results, and evaluate effectiveness - 192.1007

- i. Develop and monitor performance measures from an established baseline to evaluate the effectiveness of its IM program
  - (i) Number of **hazardous leaks** either **eliminated or repaired** as required by 192.703(c) of this subchapter (or total number of leaks if all leaks are repaired when found), categorized by **cause**;
  - (ii) Number of **excavation damages**;
  - (iii) Number of **excavation tickets** (receipt of information by the underground facility operator from the notification center);
  - (iv) Total **number of leaks** either **eliminated or repaired**, categorized by **cause**;
- NOTE: All four are reportable on annual report, 191.11.





# Measure performance, monitor results, and evaluate effectiveness -192.1007

- (v) Number of **hazardous leaks** either **eliminated or repaired** as required by 192.703(c) (or total number of leaks if all leaks are repaired when found), categorized **by material**; and
- (vi) Any **additional measures the operator determines** are needed to evaluate the effectiveness of the operator's IM program in controlling each identified threat.
- **NOTE:** These are **NOT reportable** on the annual report, but they are **required to be tracked** according to the DIMP code/plan.



# Performance measures 192.1007

## What are we finding?

- Baseline should have been established in development. What do the numbers represent
- Are you achieving DIMP results
- What else do I need to do to reduce/eliminate risk
- Are measures working
- What is an acceptable level



# Performance measures 192.1007

## What are we finding?

- Do I need to identify more Additional Actions
- Documentation viewed does not demonstrate the operator is implementing the measures to reduce risks per DIMP plan.
- The operator failed to include class “3” meter set leaks into the performance measure for total number of leaks either eliminated or repaired, categorized by cause.



# Periodic Evaluation and Improvement 192.1007

## What are we finding?

- Does the plan address periodic reviews
- What was learned from the review
- Are additional measures required based upon findings
- What new information was acquired



# Periodic Evaluation and Improvement 192.1007

## What are we finding?

- Did it reduce risk
- Is the plan effective
- If not, what is being implemented moving forward
- Track improvement and activities. Take credit for what you are doing and learning



# Annual Report- 4 Measures- 192.1007

(See slide 16)

## What are we finding?

- Annual reports – Confusion when it comes to reporting meter set leaks.
- Leak = Unintentional escape of gas from the pipeline
- Do **NOT** report a leak determined to be non-hazardous and eliminated by lubrication, adjusting, or tightening.
- “Hazardous Leak”= existing or probable hazard to persons or property and requires immediate repair or continuous action until no longer hazardous. All **ABOVE** and **BELOW** ground leaks **MUST** be reported, PHMSA F7100.1-1
- All Meter Set leaks, regardless of classification **Must** be included in DIMP plans and documentation tracking



# Mechanical Fitting Failures 192.1009

- Submit a report on each mechanical fitting failure, excluding any failure that results only in a nonhazardous leak, DOT PHMSA form f-7100.1-2, in accordance with 191.12.
  - *Basically, report all HAZARDOUS leaks from Mechanical Fitting Failures!!*



# Records 192.1011

**An operator must maintain records demonstrating compliance with the requirements of this subpart for at least 10 years.**

## What are we finding?

- Vast differences from operator to operator
- Records must be retrievable, usable/understandable for the operator to provide data as required
- The documentation on leak repair reports did not include the leak classification, cause of leak, etc. Need to know for annual report and DIMP tracking..
- Have a workable system
- Electronic vs paper, both





# Additional Findings

- Training of:
  - Field construction personnel, including contract inspectors, office staff, etc
- What do the field employees know about DIMP
- Office personnel as well if they process documents
- How, why, and what forms and information do I need to use to fill gaps and capture additional data
- Don't forget about contractor training
- Records of conducted training with personnel are missing



# Additional Findings

- Every O&M function has a correlation to the DIMP plan
- DIMP plans need to identify and list the additional information needed to fill gaps due to missing information, inaccurate or complete records.
- WHY - because the code says so, and what is coming next...
- MAOP verification..
- Are you ready
- REALLY Ready!!



# Additional Comments

- Treat DIMP as a tool to analyze needs and progress, not as a regulatory exercise
- Aging workforce has created voids in operating knowledge
- Data Quality –an appropriate level of resource allocation is required
- Move from a “Checkbox” mentality to understanding the data and information and acting promptly to reduce risk



# Links for Further Federal Data...

- **Federal Register Link**
  - <https://www.gpo.gov/fdsys/pkg/FR-2015-05-21/pdf/2015-12113.pdf>
- **Tracking and Traceability- Plasticpipe.org**
  - <https://plasticpipe.org/pdf/tracking-traceability.pdf>
- **NTSB: PermaLock Mechanical Tapping Tee Assemblies – June 18, 2018**
  - [http://www.viadata.com/rus32wdw/PDF/NTSB\\_PSR1801.pdf](http://www.viadata.com/rus32wdw/PDF/NTSB_PSR1801.pdf)
- **DIMP Enforcement Guidance**
  - <http://www.phmsa.dot.gov/foia/e-reading-room>
- **Advisory Bulletin: ADB-08-02 2008 – Issues Related to Mechanical Couplings used in Natural Gas Distribution Systems.**



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